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(FILE 'HOME' ENTERED AT 18:11:38 ON 08 JUL 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
18:11:59 ON 08 JUL 2005

L1	1557 S PASSIVATION AND REVIEW
L2	193 S L1 AND ELECTRODE?
L3	0 S L2 AND PROTEIN?
L4	0 S L2 AND LIGAND?
L5	5 S L2 AND SPECIES?
L6	5 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)
L7	1 S L2 AND (ELECTRON TRANSFER)

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FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
17:10:33 ON 08 JUL 2005

L1 296382 S PASSIV?
L2 41097 S PASSIVATION?
L3 10299 S L2 AND ELECTRODE?
L4 11 S L3 AND PROTEIN?
L5 11 DUPLICATE REMOVE L4 (0 DUPLICATES REMOVED)

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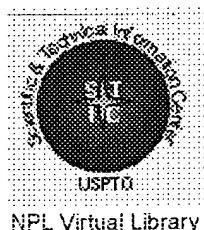
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AN 1986:438422 CAPLUS
DN 105:38422
ED Entered STN: 09 Aug 1986
TI Immunologic layer formation on metal microelectrodes
AU Panitz, J. A.
CS Surf. Sci. Div., Sandia Natl. Lab., Albuquerque, NM, 87185, USA
SO Journal of Colloid and Interface Science (1986), 111(2), 516-28
CODEN: JCISA5; ISSN: 0021-9797
DT Journal
LA English
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 15
AB **Protein** multilayers formed by the immune reaction were visualized on the highly curved apex of a metal microelectrode by transmission electron microscopy. The morphol. of antigen monolayers and immune multilayers are observed at 200 kV in a direction parallel to the **electrode** surface. A complete layer of ferritin is only one mol. thick (and loosely packed) when deposited from solution. Densely packed, multilayer structures form only when the ferritin layer is reacted with its antibody in solution. The immunol. specificity of ferritin adsorbed on a metal microelectrode, and the **passivation** of the microelectrode against nonspecific adsorption from solution are documented. Morphol. changes in immune multilayers caused by surface tension forces and **protein** denaturation at a water-air and an ethanol-air interface are discussed. Critical-point drying in CO₂, and freeze-drying under vacuum are used to minimize changes in layer morphol.
ST immune layer formation metal microelectrode
IT Immune complexes
RL: FORM (Formation, nonpreparative)
(formation of, on metal microelectrodes)
IT Ferritins
RL: ANST (Analytical study)
(monolayer, formation of, on metal microelectrodes)
IT Antigens
RL: ANST (Analytical study)
(monolayers, formation of, on metal microelectrodes)
IT **Electrodes**
(micro-, metal, immune layer formation on)


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Notes: "Available on ADONIS, v. 155, no. 1 (1993)-v. 255, no. 2 (2002)

ISSN: 0021-9797

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ANSWER 1 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1998:73952 CAPLUS

DN 128:146562

ED Entered STN: 07 Feb 1998

TI The modern understanding of the corrosion and **passivation** processes of iron group metals

AU Agladze, Tamaz R.

CS Georgian Corrosion Center, Georgian Technical University, Tbilisi, 380075, Georgia

SO Metallurgy and Foundry Engineering (1997), 23(2), 127-137

CODEN: MFOEEH; ISSN: 0137-6535

PB Wydawnictwa AGH

DT Journal; General Review

LA English

CC 72-0 (Electrochemistry)

Section cross-reference(s): 55, 67

AB The anodic dissoln. of Fe group metals in the active range proceeding monovalent cations adsorbed on the active places of the metal surface are reviewed (28 refs.). At low overvoltages the formation of primary passive film consisting of adsorbed OH ions and anions results in a strong retardation of **electrode** reactions and in the deviation from equilibrium conditions. At ambient temps., Fe group metals are totally irreversible. The formation of charge-transfer intermediates is caused by the activation of the state of adsorbed **species** due to increased anodic and cathodic overvoltages. The reactivity of OH surfaces complexes seems to be higher than that of haloid ones.

ST **review** kinetics corrosion **passivation** iron metal

IT Exchange reaction kinetics

Passivation kinetics

Passivation kinetics

(electrochem.; of iron group metals)

IT Group VIII elements

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(iron-group; corrosion and **passivation** processes of iron group metals)

IT Corrosion kinetics

(of iron group metals)

ANSWER 1 OF 5 CAPLUS COPYRIGHT 2005 ACS on STN

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AN 1991:417372 CAPLUS
 DN 115:17372
 ED Entered STN: 12 Jul 1991
 TI Mechanistic analysis using electrochemical impedance spectroscopy
 AU Macdonald, Digby D.
 CS SRI Int., Menlo Park, CA, 94025, USA
 SO Proceedings - Electrochemical Society (1991), 91-6(Proc. Symp. High Temp. Electrode Mater. Charact., 1991), 1-43
 CODEN: PESODO; ISSN: 0161-6374
 DT Journal; General Review
 LA English
 CC 72-0 (Electrochemistry)
 Section cross-reference(s): 67, 76
 AB A **review** with 51 refs. The fundamental basis of electrochem. impedance spectroscopy (EIS) is reviewed with particular emphasis on how EIS may be used to explore the kinetics and mechanisms of charge transfer reactions at **electrode** surfaces. The problem of determining whether the system being investigated conforms to the linearity, causality, and stability constraints of linear system anal. is also discussed in terms of the Kramers-Kronig transforms. The application of various anal. techniques is illustrated by reference to recent studies of charge transfer reaction at metal/electrolyte interfaces, including simple charge transfer between solution phase **species**, coupled chemical/electrochem. reactions, **electrodeposition**, electrodissohn., and **passivation**. The relative merits of representing an interface by an elec. analog or by a reaction mechanism are discussed and it is noted that elec. analogs are restricted to those cases where the impedance loci are confined to the right half of the complex plane.
 ST **review** elec impedance **electrode** reaction; kinetics mechanism **electrode** reaction impedance **review**; **electrodeposition** impedance **review**; electrodissohn impedance **review**; **passivation** impedance **review**
 IT **Electrode** reaction
 Electrodeposition and Electroplating
 Oxidation, electrochemical
 (elec. impedance in study of)
 IT Electric impedance
 (in **electrode** reaction kinetics and mechanism study)
 IT Kinetics, reaction
 Passivation
 (electrochem., elec. impedance in study of)

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 IT **Electrode** reaction
 Electrodeposition and Electroplating
 Oxidation, electrochemical
 (elec. impedance in study of)
 IT Electric impedance
 (in **electrode** reaction kinetics and mechanism study)
 IT Kinetics, reaction
 Passivation
 (electrochem., elec. impedance in study of)

ANSWER 9 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1986:438422 CAPLUS

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IT **Electrodes**

(micro-, metal, immune layer formation on)

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7/8/05.

ANSWER 6 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:72503 CAPLUS

ED Entered STN: 28 Jan 2005

TI An electrochemical interface for integrated biosensors

AU Kim, Peter; Kohli, Neeraj; Hassler, Brian; Dotson, Nathan; Mason, Andrew; Worden, R. Mark; Ofoli, Robert

CS Michigan State University, East Lansing, MI, USA

SO Proceedings of IEEE Sensors 2003. IEEE International Conference on Sensors, 2nd, Toronto, ON, Canada, Oct. 22-24, 2003 (2003), Meeting Date 2003, Volume 2, 1036-1040 Publisher: Institute of Electrical and Electronics Engineers, New York, N. Y.

CODEN: 69GKWH; ISBN: 0-7803-8133-5

DT Conference

LA English

CC 9 (Biochemical Methods)

AB This paper presents an integrated, **protein**-based, biosensor that can be scaled to form high-d., multi-analyte sensor arrays phys. integrated on a signal conditioning circuit die. A fully scalable, post-CMOS-compatible, three-**electrode** interface to biochem. sensors has been developed. A silicon substrate **electrode** system, consisting of Ti/Au working and auxiliary **electrodes** and a Ti/Au/Ag/AgCl reference **electrode** has been adapted to biomimetic sensors. The functional Ag/AgCl reference, **electrode** is isolated from the environment using a Nafion cation-exchange membrane to extend operation lifetime. To complete the sensor structure, lipid bilayers have been deposited in **passivation** layer openings formed over individual working **electrodes** using a special tethering mol. Total internal reflection microscopy (TIRFM) studies were done to confirm that a wide range of **proteins**, such as dehydrogenase enzymes and ion channels, can then be embedded into the lipid bilayers. These results verify the potential to form highly selective recognition elements with direct phys. connection to readout electronics on the supporting silicon substrate.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (1) Hiroaki, S; Electroanalysis 2000, V12(9), P703
- (2) Janshoff, A; Chembiochem 2001, V2, P798 CAPLUS
- (3) Kohli, N; To appear, Proc American Inst Chemical Engineers Annual Meeting 2003
- (4) Krysinski, P; Biotechnol Prog 1999, V15, P974 CAPLUS
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- (13) Vo-Dinh, T; Fresenius J Anal Chem 2000, V366(6-7), P540 CAPLUS
- (14) Yun, K; Proc of the International Sensor Conference 2001, P163

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